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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

LEE, ANDREW CHUNG CHEUNG

ART UNIT PAPER NUMBER

2664

DATE MAILED: 01/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/081,152

Applicant(s)

BRANDT ET AL.

Examiner

Andrew C. Lee

Art Unit

2664

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-19 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 02/25/2002.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Drawings

1. The informal drawings for Figs. 4 to 8 are not of sufficient quality to permit examination. Accordingly, replacement drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to this Office action. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action.

Applicant is given a TWO MONTH time period to submit new drawings in compliance with 37 CFR 1.81. Extensions of time may be obtained under the provisions of 37 CFR 1.136(a). Failure to timely submit replacement drawing sheets will result in ABANDONMENT of the application.

2. The drawings are objected to because regarding Fig. 1, the rectangular boxes and the arrowed lines connecting the rectangular boxes are not labeled; regarding Fig. 4 to 8, the X and Y axis are not labeled. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement

sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

3. The drawings (Fig. 3) are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description: The subject matters of "Step I, Step II, Step III, Step IV as disclosed in pages 12 – 14 of the specification. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the Regarding claim 1, the claimed limitation “one or more queues of a first group of the queues” as disclosed in lines 6 – 7, and “each of the queues in a second group of queues” as disclosed in lines 11 – 12. Regarding claim 10, the claimed limitation “one or more queues of a first group of the queues” as disclosed in lines 8 – 9, and “each of the queues in a second group of queues” as disclosed in lines 11 – 14; regarding claim 19, the claimed limitation “an apparatus according to claim 10 and being embodied on a single ASIC, further comprising: a number of input ports either connected directly to one or more data packet/unit providers, and at least one output to the medium” as disclosed in lines 8 – 12” must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as “amended.” If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either “Replacement Sheet” or “New Sheet” pursuant to 37 CFR 1.121(d). If

the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

5. The disclosure is objected to because of the following informalities:

- “each of eight Hybrid Fair Shapers, one of which is illustrated at 10”; note that the signals “BW_enable” and WFQ_enable” are from 10 to device 14. while on page 10, line 29, the sentence “The device, receiving the BW_enable and WFQ_enable signals from the schedulers. Where do the schedulers come from? Schedulers are not indicated in the drawings.
- “The device 14” as disclosed on page 9, line 31, while on page 15, line 22, the “scheduler 14”. There are a lot of inconsistency and discrepancies in the specification.

Appropriate correction is required.

Specification

6. The abstract of the disclosure is objected to because the title of the Abstract is incorrect. The title “Abstract of the Disclosure” or “Abstract” should be applied. Correction is required. See MPEP § 608.01(b).

7. The current format in the specification and disclosure is inappropriate.

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC (See 37 CFR 1.52(e)(5) and MPEP 608.05. Computer program listings (37 CFR 1.96(c)), "Sequence Listings" (37 CFR 1.821(c)), and tables having more than 50 pages of text are permitted to be submitted on compact discs.) or
REFERENCE TO A "MICROFICHE APPENDIX" (See MPEP § 608.05(a). "Microfiche Appendices" were accepted by the Office until March 1, 2001.)
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

8. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

9. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

10. Claims 1, 10, 2, 11, 3, 12, 4, 13, 5, 14, 6, 15, 7, 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Oba et al. (US 6262986 B1).

Regarding claims 1, 10, Oba et al. disclose the limitation of a method and an apparatus of transmitting information units or packets from a plurality of queues into a single transmission medium (Fig. 2, column 2, lines 14 – 19), wherein the units or packets may have different sizes (column 1, lines 19 – 30), the method comprising: a bandwidth guaranteeing process transferring units or packets from one or more queues of a first group of the queues to the transmission medium in a manner so that each of those queues can obtain at least a predetermined bandwidth (Fig. 2, element 16, column 7, lines 1 – 7), and a queuing process comprising the steps of: 1. assigning a priority or quality to each of the queues in a second group of queues (column 7, lines 33 – 42), 2. defining, for each of the queues in the second group, a variable (column 7, lines 33 – 38), and 3. when no queues transmit units or packets using the bandwidth guaranteeing process: determining a queue in the second group having a variable with a value fulfilling a predetermined criterion (column 7, lines 60 – 67; column 8, lines 1 – 21), transmitting a packet or unit from that queue to the transmission medium (column 7, lines 43 – 47), and determining a new value

for the variable of the queue, the new value relating to a mathematical operation using a previous value for the variable at a point in time prior to transmission of the packet or unit and a factor scaling with/relating to the priority or quality of the queue multiplied with a factor relating to a size of the packet or unit transmitted from the queue and/or a period of time used for transmitting the packet or unit, where the mathematical operation brings the new value to, compared to the previous value, not fulfill the predetermined criterion (column 2, lines 30 – 42; Fig. 4, column 8, lines 27 – 67).

Regarding claims 2, 11, Oba et al. disclose the limitation of a method and an apparatus according to claimed wherein step 3 comprises: when no queues transmit units or packets using the bandwidth guaranteeing process: determining a queue in the second group (having data) having a variable with a smallest value (column 7, lines 60 – 67; column 8, lines 1 – 21), transmitting a packet or unit from that queue to the transmission medium (column 7, lines 43 – 47), and determining a new value for the variable of the queue, the new value relating to a value for the variable at a point in time prior to transmission of the packet or unit plus a factor scaling with/relating to the priority or quality of the queue multiplied with a factor relating to a size of the packet or unit transmitted from the queue and/or a period of time used for transmitting the packet or unit (column 2, lines 30 – 42; Fig. 4, column 8, lines 27 – 67).

Regarding claims 3, 12, Oba et al. disclose the limitation of a method and an apparatus according to claimed wherein the step of transmitting the data packet or unit comprises transmitting the packet or unit in accordance with a periodic timing signal and wherein the step of determining the new value for the queue comprises, during

transmission and for each period of the timing signal, providing a new value for the variable by performing the predetermined mathematical operation on a previous variable value and a factor scaling with the priority or quality of the queue (column 2, lines 30 – 45; column 6, lines 2 – 29,).

Regarding claims 4, 13, Obaet al. disclose the limitation of a method and an apparatus according to claimed wherein step 3 is adapted to be stopped, with a first set of values, when a packet or unit has been transmitted and a queue from the first group of queues wishes to transmit a packet or unit and to be resumed with a second set of values each corresponding to a value of the first set of values, when none of the queues of the of the first group wishes to transmit a packet or unit (column 7, lines 1 – 47).

Regarding claims 5, 14, Obaet al. disclose the limitation of a method and an apparatus according to claimed wherein step 3 comprises the step of altering the variables of the queues of the second group in accordance with a predetermined relationship (Fig. 4, column 8, lines 35 – 62).

Regarding claims 6, 15, Obaet al. disclose the limitation of a method and an apparatus according to claimed further comprising the step of determining a bandwidth used for at least one of the queues (column 6, lines 2 – 29; column 8, lines 1 – 3).

Regarding claims 7, 16, Obaet al. disclose the limitation of a method and an apparatus according to claimed further comprising the step of altering, on the basis of the bandwidth used by a queue, a parameter of the bandwidth guaranteeing process for the queue and/or the priority/scaling of the step of determining a new value for the queue

(column 2, lines 30 – 45; column 5, lines 57 – 67; column 6, lines 2 – 45).

Regarding claims 9, 18, Oba et al. disclose the limitation of a method and an apparatus according to claimed wherein the step of defining the variable comprises defining an integer value relating to a priority or quality of each queue (column 7, lines 33 – 42).

Claim Rejections - 35 USC § 103

11. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 8, 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al. (US 6262986 B1) in view of Ennis Jr. et al. (US 5867483).

Regarding claims 8, 17, Oba et al. disclose the limitation of a method and an apparatus according to claimed further comprising the step of determining a bandwidth used for at least one of the queues (column 6, lines 2 – 29; column 8, lines 1 – 3). Oba et al. do not disclose expressly a method and an apparatus according to claimed further comprising the step of providing information to an operator of the bandwidth used. Ennis Jr. et al. disclose the limitation of a method and an apparatus according to claimed further comprising the step of providing information to an operator of the bandwidth used (column 3, lines 24 – 34). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify Oba et al. to include a method and an apparatus according to claimed further comprising the step of providing information to an operator of

the bandwidth used such as that taught by Ennis Jr. et al. in order to monitor data transmission systems and display bandwidth utilization for the access channel or an individual transmission circuit over a predetermined time interval (as suggested by Ennis Jr. et al., see column 3, lines 13 – 15).

13. Claim 19 is rejected under 35 U.S.C. 103(a) as being unpatentable over Oba et al. (US 6262986 B1) and Ennis Jr. et al. (US 5867483) as applied to claims 1 – 18 above, and further in view of Aatresh (US 6067301).

Regarding claim 19, both Oba et al. and Ennis Jr. et al. do not disclose expressly an apparatus according to claim 10 and being embodied on a single ASIC, further comprising: a number of input ports either connected directly to one or more data packet/unit providers, and at least one output to the medium. Aatresh discloses the limitation of an apparatus according to claim 10 and being embodied on a single ASIC, further comprising: a number of input ports either connected directly to one or more data packet/unit providers, and at least one output to the medium (column 12, lines 4 – 10; column 2, lines 22 – 31; lines 54 – 65; Fig. 3, column 5, lines 32 – 54). It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify combination of Oba et al. and Ennis Jr. et al to include an apparatus according to claim 10 and being embodied on a single ASIC, further comprising: a number of input ports either connected directly to one or more data packet/unit providers, and at least one output to the medium such as that taught by Aatresh in order to provide the buffering of packets within a switch and maintaining Quality of Service (QoS) through the switch (as suggested by Aatresh, see column 1, lines 9 – 11).

Conclusion

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Andrew C. Lee whose telephone number is (571) 272-3131. The examiner can normally be reached on Monday through Friday from 8:30am - 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Ajit Patel
Primary Examiner

ACL

Jan 01, 2006